**AMENDMENTS TO THE CLAIMS**

**This listing of claims will replace all prior versions and listings of claims in the application:**

**LISTING OF CLAIMS:**

1. (currently amended) An optical transmission system ~~with~~ comprising:

a transmitter ~~function~~unit, a transmission line, and a receiver ~~function~~ unit, where each channel has its optical spectrum truncated by a filter function according to a vestigial side-band method~~;~~;

wherein the transmitter ~~function comprising~~ unit comprises modulators and a wavelength multiplexer for either equidistant or non-equidistant channel spacing;

the receiver ~~function comprising~~ unit comprises a wavelength demultiplexer, and electrical receivers; and

the filter ~~function comprising~~ unit comprises a first filter and a second filter, the second filter having a transmission response with maximum transmission at the central wavelength of the channel, and the first filter having a transmission response with maximum transmission in the relevant sideband of said WDM channel, the filters being tunable.

2. (previously presented) The transmission system according to claim 1, wherein the two filters are tunable with changes of the maximum distance between them.

3. (previously presented) The transmission system according to claim 1, wherein the transmission maxima of the first and the second filters are about 15 GHz apart from each other.

4. (previously presented) The transmission system according to claim 1, wherein the first and the second filter are fiber Bragg grating filters with a common support device.

5. (previously presented) The transmission system according to claim 1, wherein the first and the second filter are Fabry Perot Filters.

6. (previously presented) The transmission system according to claim 1, wherein the first and the second filter are structures in a planar lightwave circuit.

7. (previously presented) A method for optimization of bit error rate in a VSB-WDM transmission system comprising:

transmitting coded optical signals over a transmission line;

demultiplexing the WDM channel wavelengths;

filtering the sideband of the channel wavelengths;

filtering with two parallel aligned filters where the first filter is filtering the sideband and the second filter is filtering the carrier wavelength;

adjusting the second filter exactly on the channel wavelength by a feed back loop; and

maintaining the distance between the maxima of the two filters.